

TECHNICAL DATA SHEET



**ALTERNATOR CPS18 SC - 50Hz**

*Single-Phase brushless synchronous alternator with AVR - 4 poles*

## CPS18 SC - 50Hz

### COMMON DATA

Rated Power at 50Hz	kVA	8,5
Rated Power Factor		1
Nominal Temperature	°C	40
Control System		self-excited
Execution		brushless
Regulation Type		AVR
Insulation Class		H
Protection		IP23
Maximum Over speed	rpm	2250
Overload		110% of rated power for one hour in a cycle of 6 hours
Air Flow Requirement	m <sup>3</sup> /min	4,5 at 50Hz
R.F.I. Suppression		Standard EN55011

### REGULATION DATA

AVR		HVR11
Sensing		single-phase
Voltage Regulation		±1%
Sustained Short Circuit		> 250% of rated current

### WINDING DATA

Stator Winding		Single layer with auxiliary winding
Rotor Winding		with damping cage
Winding Pitch		2/3
Number of Leads of Stator		4
Stator Winding Resistance	(1-2) Ω	0,28 at 20°C
Rotor Winding Resistance	Ω	2,1 at 20°C
Exciter Stator Resistance	Ω	12 at 20°C
Exciter Rotor Resistance	Ω	0,82 at 20°C
THD at full load		< 5,5%
THD at no load		< 3,5%
Excitation at no load	Adc	0,83
Excitation at full load	Adc	1,90

### STANDARD

References	EN60034-1 ISO8528-3 EN55011
------------	-----------------------------

### ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I

## CPS18 SC - 50Hz

### ELECTRICAL DATA

Frequency		50Hz - 1500rpm		
Voltage	V	<b>110/220</b>	<b>115/230</b>	<b>120/240</b>
Rated Power in Class H (125°C/40°C)	kW	8,2	8,5	8,5
Rated Power in Class F (105°C/40°C)	kW	7,7	8	8
Rated Power Standby (150°C/40°C)	kW	8,7	9,0	9,0
Rated Power Standby (163°C/27°C)	kW	9,2	9,5	9,5

### EFFICIENCY IN CL. H @ 1P.F

4/4	80,2%
3/4	81,7%
2/4	76,5%
1/4	66,4%

### REACTANCES AND TIME CONSTANTS

pcc	0,45
X <sub>d</sub> - dir. axis synchronous	153% 245% 226%
X' <sub>d</sub> - dir. axis transient	27,4% 26,0% 24,0%
X'' <sub>d</sub> - dir. axis subtransient	15,6% 14,8% 13,6%
X <sub>q</sub> - quad. axis reactance	146% 138% 127%
T' <sub>do</sub> - O.C. field time constant	299ms
T' <sub>d</sub> - Transient time constant	32ms
T'' <sub>d</sub> - Sub-transient time constant	7ms

### MECHANICAL DATA

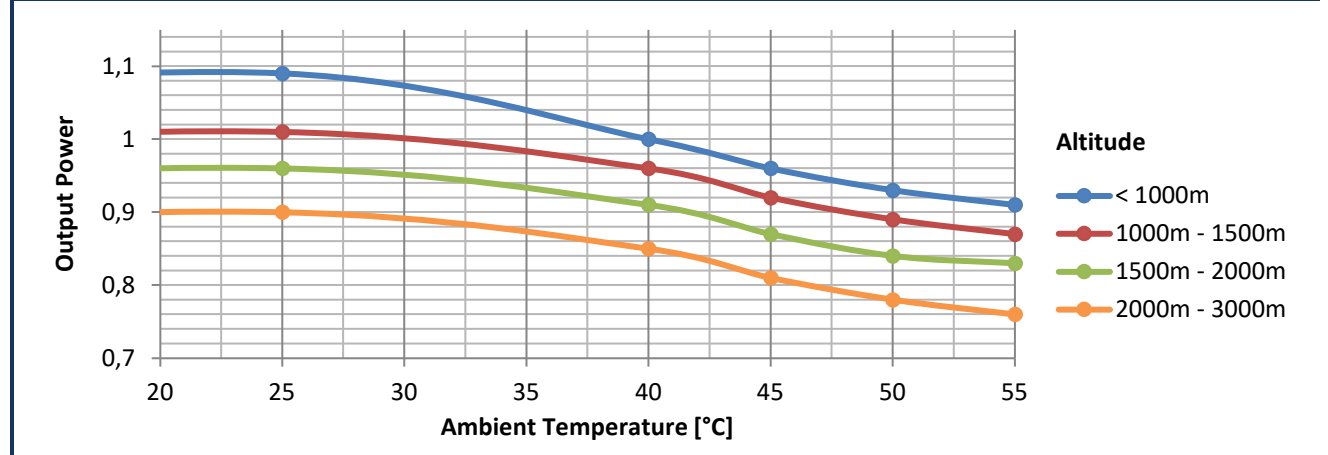
Bearing non drive end	6306-2RS-C3
Bearing drive end (B3/B14 form)	\
Weight of generator	in B2 kg ***
	in B3/B14 kg \
	in B3/B9 kg \

# CPS18 SC - 50Hz

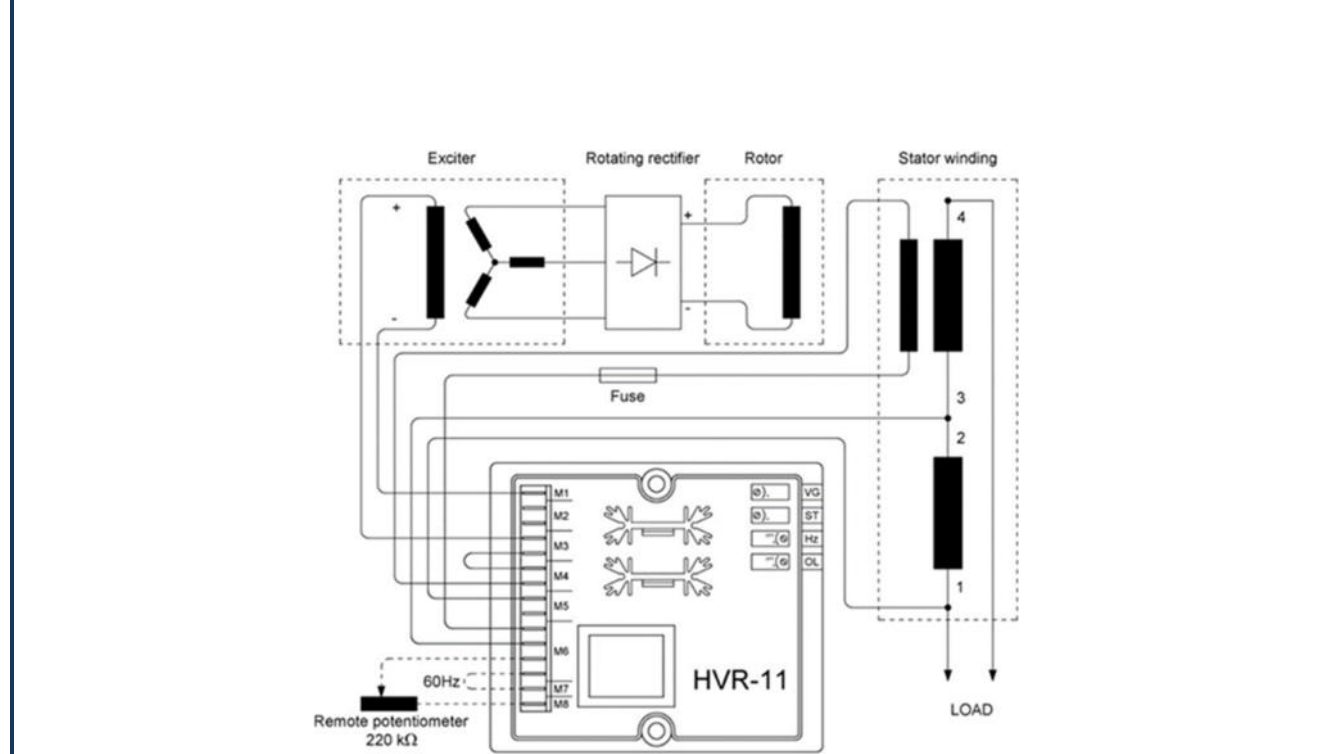
## MOMENT OF INERZIA

SAE 6½	kg·m <sup>2</sup>	0,121
SAE 7½	kg·m <sup>2</sup>	0,124

## DERATING CURVES



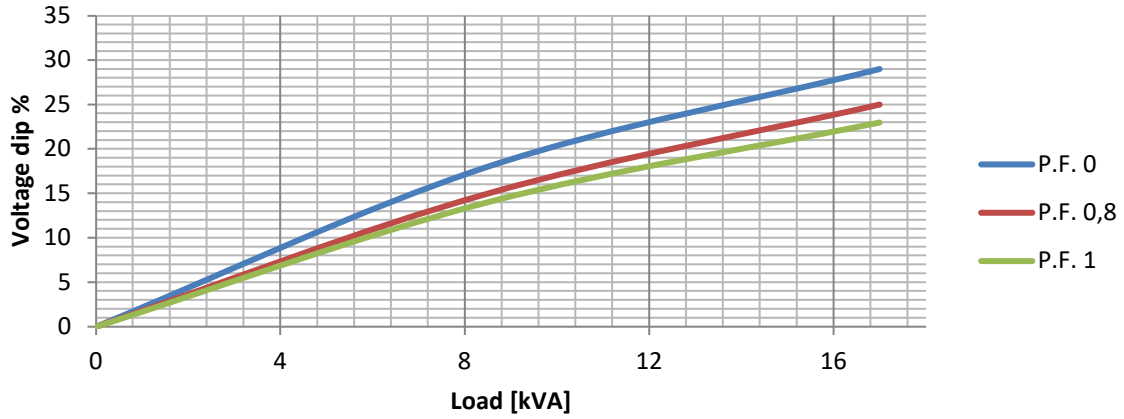
## WIRING DIAGRAM



# CPS18 SC - 50Hz

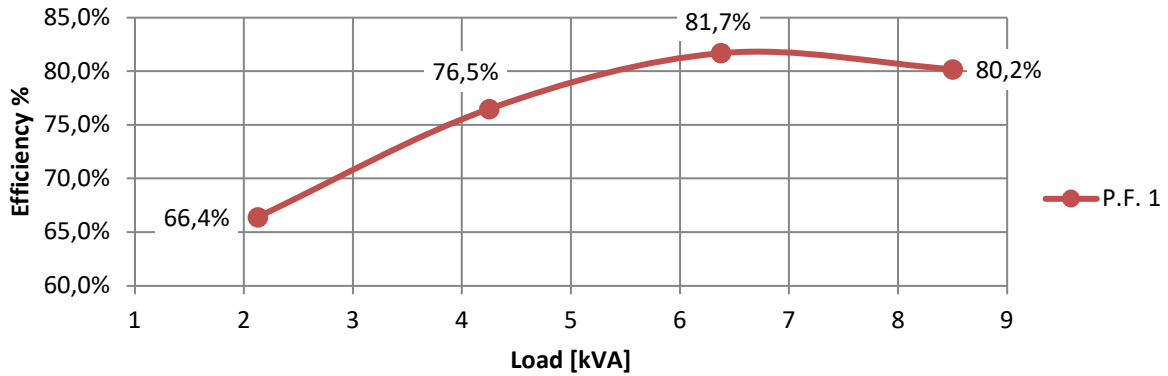
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz

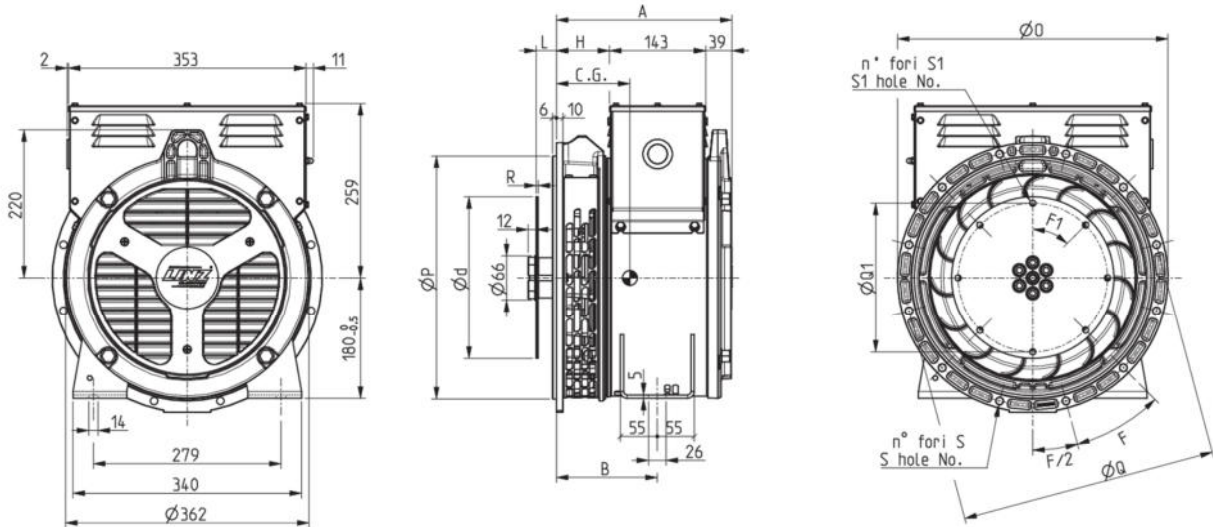


## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz



# CPS18 SC - 50Hz



FORMA - FORM	A	B	H
CP 18XS	261	150	79
CP 18S	276	165	94
CP 18M	316	205	134

SAE N.	FLANGIE - FLANGES - BRIDAS				
	Ø0	ØP	ØQ	n. fori holes No.	S
5	356	314.3	333.4	8	11
4	402	362	381	12	11

TYPE	C.G.
CP 18XSA	125
CP 18SB	131
CP 18SC	132
CP 18MD	146
CP 18ME	147
CP 18MF	150

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS					
	L	Ød	ØQ1	n. fori holes No.	S1	F1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2		241.3	222.25	8		45°